

The Survey of Cost Reengineering in Iranian Business Insurance Entities with Emphasize on Combinational System (ABC-EVA)

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ABSTRACT

Accounting information systems, according to current business conditions also should try to provide information needed for management. Planning cost management system is an attempt to meet this management requirement in current conditions. This system has a strategic vision on final price and tries to control and decrease costs with least effect on quality and function of products. These ideas could be implemented and investigated on different industry. In this study, according to modern approaches of management accounting and cost management system, we tried to investigate the structure correction of final price in insurance industry. To do this, we used a modern model called combinational system (ABC-EVA) to calculate final price of insurance and evaluate proper and on time information presentation and determine fair insurance price. Results show that, first, final price of insurance needs reengineering and second, ABC-EA combined system is implementable.

KEYWORDS: Reengineering, Final Price, Commercial Insurance Companies, Activity Based Costing (ABC), Economic Value Added (EVA)

1. INTRODUCTION

The main target of commercial units is wealth (value) creation at now and future. If a company be unsuccessful in that, its durability and survival is doubted. Disadvantageous companies do not attract investors and in order to satisfy investors, final price and economic value must be managed. Value creation in modern organizations is inevitable. This is true in insurance companies too. Final price is a strategic component at permanence and survival of insurance companies. Although automation, advertising, etc. could be success factors for an insurance company, but appropriate insurance premium and sometimes reduced insurance premium could create a competitive advantage for insurance companies. One of the important components of insurance premium calculation is final price that adjuster (technical insurance calculator) allow that on calculations. Technical insurance calculator, considering possible danger occurrence and insurance, administrative and sales costs, in each insurance case and adding profit percentage, calculates insurance premium per capital unit.

Nowadays, nation's insurance market faces new arena by entering private insurance companies and their severe competition with state's insurance companies. At current conditions, final price determination can play a strategic role in maintaining and increasing each insurance company's portion in market, profitability permanence. Due to the high importance of final price in determining insurance premium (sales price) and attracting customers, sometimes we can see some non-professional behaviors such as non-expertly price lowering and unfair and belated adjustment payments from some insurance companies. Therefore, implementing and institutionalizing new attitudes toward customers and value creation at insurance industry require establishment of new mechanism such as cost management system as a strategy to develop and growth of insurance industry and nation's economy. This work tries to do a primary diagnosis on final price calculation methods for insurance followed by examining activity based costing combinational method and economic value added at insurance companies.

Final price is one of the important factors in competition. The balance of this component with other components such as quality and time (functioning time) results in reduced cost of the business, activity permanence and is inevitable precondition for success at any firm. Firms try to offer products with low price, high quality and proper functionality at the least time possible to their customers. Therefore, to maximize profit and value in the organization, final price must be managed as an important factor of survival triangle. Management's commitment toward continuous improvement, satisfaction of customers and participation of employees at all levels, such that lead to value creation and elimination of valueless activities is a fundamental requirement for cost management system.

2. LITERATURE REVIEW

In insurance business, due to the nonphysical nature of product (insurances) and since the quality of services is understandable after occurrence of adjustment determination, developing cost management system and final price have double importance. Because first, insurance is nonphysical product and understanding its quality and function for customer is difficult while, price you pay for it is objective and you must pay in advance and second, insurance services become objective after occurrence of covered incident and turning to financial state. Therefore, the insurance services price will be paid in advance for compensation of damages that may never happen. Therefore, in insurance operations in the time of paying adjustment the value point is created, because financial loss put policyholder in turbulence and the peace after receiving adjustment for policyholder is very important and valuable. Adjustment amount will be paid to policyholder in cash as insurance services offering tool (contract consideration), so in insurance operations, the value will be created to customer when he recover the situation before occurrence of incident and the imbalance created by incident fully compensated. Policyholder, considering the peace after losses financial compensation and even increased interests, will willingly pay for insurance when making insurance contract, but insurance companies could pay compensations on time and completely if they already receive the insurance price and have an appropriate cash flow. In other words, value creation in insurance operations requires appropriate liquidity. There is direct relationship between quality of services and insurance premium, because insurance premium is the price of peace of mind and insurance services. Calculating insurance premium has a close relationship with pricing (calculating and determining final price and extraction of sales price). Therefore, insurer must be covered with an appropriate insurance covering all possible threats and pay the premium with satisfaction. Today, most of the nation's insurances are compulsory and if legal requirements will be eliminated, their demand and supply will not be welcomed to insurance companies and insurers. Following could be reasons for lack of insurance attractiveness:

1. Incompatibility with needs and tastes of customers (policyholders);

After correcting technical requirements and insurance principles in a new form of insurance, it will be operational if had a fair final price. For example, one of the reasons for lack of life insurance development is determination of its final price and consequently unfairly calculated insurance premium. In calculating insurance prices, costs like funeral, therapy, hospitalization, and even the costs of lost fortunes must be included to maintain attractiveness for insurers.

2. High price of insurance;

Nowadays, some insurance have high and unreasonable sales margins for insurers, such as fire insurance and cargo insurance which have loss coefficient (the ratio of loss per insurance) under 40%.

3. Low price of some insurance that are sold with negative margin and insurance companies do not tend to sell them like third party insurances;

Due to several reasons, these insurances have high prices and since their premiums determined by rule and inexpertly, the adjustment payment (loss compensation, administrative and personnel costs) is more than received premium. Loss coefficient in these insurances (without administrative and personnel costs) is more than 130%.

4. The lack of mechanisms for calculating final price and finally impossibility of calculating insurance premiums;

Calculating insurance premium is done without appropriate classification of costs, because most of technical calculators do not have financial and accounting education background.

Managing accounting paradigm cost to make better decisions in designing product, pricing, marketing and improvement is continuous. Designing a codified and exact method to calculate final price for each insurance field could be a good basis to determine insurance premium (sales price). Lack of this mechanism causes dumping and improper payment for losses. Clear final price leads to fair sales price and facilitate their sales and had profitability for insurance companies. Nowadays, insurance premiums are being determined and approved by central insurance (higher council of insurance). Components of insurance premium include danger premium (incident possibility), balance sheet premium (including appropriate division of administrative and personnel cost of insurance), and commercial premium (profit appropriateness percent) that administrative and personnel cost division is very important in calculating balance sheet premium. Today, there is no appropriate basis administrative and personnel cost division in insurance industry. As an example, with a primary investigation it can be seen that administrative costs of the insurance companies are not equal but this difference is not considered in premium calculations and insurance premium must be equal for all insurance companies. For example, depreciation ratio, due to different numbers of administrative buildings and their values of private and state insurance companies is not same. But allocated share for this cost in calculating insurance premium is equal for all companies. The results of such calculation for insurance premium is high profit margin for companies with lower administrative cost so that, other

companies do not have the right to change their rates and if they do, they will be punished because of dumping and law violation resulting in heavy fines from surveillance organizations like central insurance of Iran, court of audit, general inspection organization and sometimes adding condition paragraphs at independent auditor report. These conditions lead to increasing unfair competition, ignoring professional morality, losing available capacities at insurance industry that finally, lead to noncompliance of nation's twenty-year outlook document macro strategies about insurance industry. It is worth mentioning that, according to twenty-year outlook document the influence coefficient of insurance (ratio of insurance premium per gross domestic production (GDP)) in Iran up to year 1404 must be more than 7% that now is 1.5%.

3. METHODOLOGY AND DATA

3.1. The model in this research

Pricing on the basis of appropriate criteria will cause profitability of a company, satisfaction of current customers, and absorption of new customers. The aim of this search is finding a proper model to calculate final price in insurance companies for extracting sales price and providing the minimum of profitability on customer value basis. So the minimum profitability is calculated equivalent with compensation of insurance, administrative and personnel costs plus capital cost or cost of opportunity that imposed to insurance companies to purchase capital assets in insurance operations.

Capital cost rate * capital assets = capital cost

Usually, capital cost rate is determined on market' interest rate, activity type of company, capital structure, and investors' expectations. Determining capital cost rate is a subject to comprehensive discussions and is an information item related to increasing information content prepared for managers' decision making. In a value oriented organization in analyzing value chain, the created economic value must be at least equal to capital cost and other related costs otherwise; the shareholders wealth will be reduced. An appropriate estimation for capital cost rate is the long-term interest rate of debentures plus a few percent as inflation and risk will be determined by companies. In this work, the average rate of deposit profit through year 2007, due to it's as measurability considered as capital cost. If an insurance company could not compensate the above mentioned capital cost after deducting insurance, personnel and administrative costs, while satisfying its customers, one can say that its activities was not value creative. In other words, this work tries to calculate final price of insurances available in a commercial insurance company and with attention to allocating appropriate share of capital cost to it and then, compare the obtained results with insurance premiums used in insurance industry and if positive sales margin observed, conclude that the company considered one of value creator components. It is obvious that, to define value creation and value creator organizations in insurance activity, various criteria can be designed such as increasing satisfaction, timely and fair adjustment payment, increasing the portion in market, developing information technology, financial transparency, efficiency at capital market, operational efficiency and etc. in this work, due to strategic importance of final price and its role on determining sale price of insurance, the value creation is considered from controlling final price and offering fair price for costumers satisfaction aspects so that, satisfaction of insurers creates wealth in insurance companies and have benefits for all stakeholders. To exact calculation of the final price, the combination economic value added – activity based costing (ABC-EVA) system have been used. Activity based costing has high accuracy in allocating overload costs and calculating final price. While there are also other costs in every business that because of not recording in offices do not considered in ABC calculating. One of these costs is capital cost that is from investments on capital assets. For costing, Hubble offers the combination of ABC method with a performance based evaluation method that includes capital. In this method we can use criteria such as economic value added (EVA) or remained value (RI) that emphasize on capital cost value creation. But EVA is less complicated than RI. The (ABC-EVA) combinational evaluation model is a powerful tool can facilitate value creation through correcting final price structure. In this new combinational model, ABC reflects the amount and the way of company's resources consumption via investigating operational costs while economic value added shows final price of investment in capital assets via measuring capital.

3.2. ABC-EVA combinational model implementation process

The (ABC-EVA) combinational model implementation steps are to ABC system. The main difference is in third step, determining total cost for each activity.

These steps are as follows

Step first; definition of activities and collected financial data.

This step is recognition of main activities that consume resources. All required financial data can be collected from financial statements.

Step two; determining cost driver and operational costs shares for each activity.

In this step, investigating causation and genesis sources of overload costs, appropriate shares of these costs are allocated to activities.

Step three; determining capital cost for each activity in analyzing activity capital dependence.

In this step, benefiting activity capital dependence analysis and with attention to activities consumption from capital resources, an appropriate share of capital costs allocate to activities. This step does not exist in activity costing and calculated capital costs in this step will be added to final price of each activity in ABC and cause an increase in final price.

Step four; calculating final price of product.

In this step, total cost of each activity is allocated to products.

3. RESULTS

In order to further familiarity with activity based costing - economic value added (ABC-EVA) combinational model and studying its implementation method in commercial insurance companies, an example with hypothetical numbers but in a real topic accounts and activities format of a sample insurance company is presented. The following computations are for a one year period and the results of using this system can be applied to periods less than a year. In other words, using ABC-EVA combinational system we can obtain final price for three month, six month, or nine month periods and present them to authorities like stock exchange as mid-term reports. For simplicity, we assume that the balance sheet information do not change throughout the year, or solve this problem we can use annual average of each account. The balance sheet of sample insurance company in year 2007 is as follows:

Table 1: The balance sheet of sample insurance company in year 2007

Description	Thousand Rls
Tangible fixed assets	1,300,000
Intangible fixed assets	300,000
Long-term investments	200,000
Current assets	400,000
Current debts	200,000
Long-term debts	500,00
Capital	1,500,000

According to profit and loss account lead to 2007 financial year, sum of the operational costs of sample insurance company was equal to 800,000 including following items:

Table 2: Operational costs of sample insurance company

Description	Thousand Rls, 2007
total insurance incomes including premium, reinsurance commission, insurance claim of reinsurers	800,000
Total incomes of investment and miscellaneous	200,000
Total insurance costs including reimbursement, commission, assigned reinsurance premium, difference of insurance deposits and the share of casualty insurance fund	600,000
Total administrative and personnel costs	200,000
Profit before tax	200,000

To allocate operational costs to activities, we can identify following activities and allot costs to activities on appropriate cost driver basis. All activities of sample insurance company can be classified in eight activities as follows.

Table 3: All activities of sample insurance company

Activity	Cost driver	Operational cost (thousand Rls)
Issuance of insurance policy	Number of issued insurance policies	170,000
Reimbursement	Number of reimbursement files	150,000
Insurers affairs	Number of inquired files about insurers complaints	50,000
Research and development and training	Training and research hours	40,000
Buildings and facilities	Number of Repair and construction contracts	240,000
Information technology	Number of IT contracts	60,000
Representatives and sales network affairs	Number of agency licenses	60,000
Legal affairs	Number of legal cases	30,000

The nature of insurance companies' costs and investigating behavior of cost in these companies indicate that, all costs of insurers are indirect production costs and these conditions emphasize on designing exact system for their allocation. After obtaining the above table we can allocate costs of activities to the products (different types of issued insurance policies) and obtain the final price of each insurance policy. However, before calculating final price we must allocate appropriate shares of capital cost to these activities. In order to implement third step of ABC-EVA combinational model, we must use activity capital dependence analysis (Tables 1 and 2). In this step, capital cost rate (CCR) which could have affected by various factors such as investors' expectations, financial structure and management goals is determined. In this example, the average profit rate of deposits equal to 15% considered as capital cost rate. Company's capital is identified proportional with balance sheet information that is equal to total assets minus current debts. In other words, debts without any interest costs will not include in capital calculation. If the total capital of company that obtained from above formula multiplied in capital cost rate, the total allocable capital cost will be obtained. Then the total capital cost for each activity will be tracked and allocated to activities with dependence proportion that is specified in a Table (Table. 2). In the following we will present a matrix in which, rows represent activities and columns represent accounts groups. In this matrix in the case of relationship between activity and account group a star mark is inserted in respective coordinates. Then with attention to check marks, relationship percentage, i.e. the rate of each account's received services from activities must be specified in a separate table (Table.2 activity capital dependence analysis). It is obvious that, that total percent of use services by each account must be equal to 100%. Activity capital dependence analysis table for sample insurance company is as follows.

Table 4: activity capital dependence analysis

Activity	Accounts groups			
	Intangible assets	tangible assets	Current assets minus current debts	Long-term investment
Issuance of insurance policy		*	*	*
Reimbursement		*	*	*
Insurers affairs		*	*	
Research and development and training		*	*	
Legal affairs	*	*	*	
Buildings and facilities	*	*		*
Information technology	*	*		*
Representatives and sales network affairs	*	*	*	*

In determining the existence of dependence between activities and accounts groups (Table. 1) we must benefit experts' comments and even in some cases we can track and observe the costs occurrence fashion and their record in account books. After that, the check marks in the table must be replaced with dependence percentage. At first, we calculate total capital cost for sample insurance company with regards to total capital cost (total assets minus current debts) and capital cost rate (15%). With attention to balance sheet, the total capital cost of sample insurance company is 2,000,000 Rls and capital cost is calculated as follows.
 $2,000,000 * 15\% = 300,000$

Table5: Activity capital dependence analysis

Activity	Accounts groups				Capital cost for activities (thousand Rls)
	Intangible assets	tangible assets	Current assets minus current debts	Long-term investment	
Issuance of insurance policy	-----	20%	10%	35%	52,500
Reimbursement	-----	20%	40%	35%	61,500
Insurers affairs	-----	5%	5%	-----	11,250
Research and development and training	-----	10%	10%	-----	22,500
Legal affairs	10%	5%	5%		15,750
Buildings and facilities	40%	20%	20%	10%	66,000
Information technology	40%	10%	5%		39,000
Representatives and sales network affairs	10%	10%	5%	20%	31,500
Total (thousand Rls)	45,000	195,000	30,000	30,000	300,000

Table 6: Accumulative final price of each activity (thousand RIs)

Activity	Operational cost	Capital cost	Final price
Issuance of insurance policy	170,000	52,500	222,500
Reimbursement	150,000	61,500	211,500
Insurers affairs	50,000	11,250	61,250
Research and development and training	40,000	22,500	62,500
Legal affairs	30,000	15,750	45,750
Buildings and facilities	240,000	66,000	306,000
Information technology	60,000	39,000	99,000
Representatives and sales network affairs	60,000	31,500	91,500
Total	800,000	300,000	1,100,000

In the following table, the final price for each product (insurance policy) of sample insurance company is calculated by both ABC and ABC-EVA methods.

Table 7: Profit and final price of each product in ABC system

Description	Product name				
	Automobile insurance	Casualty insurance	Engineering insurance	Fire insurance	Cargo insurance
Sales revenue	352,000	112,000	136,000	128,000	72,000
Final price	560,000	120,000	45,000	40,000	35,000
Profit	-280,000	-8,000	91,000	88,000	37,000

Table 8: Profit and final price of each product in ABC-EVA system

Description	Product name				
	Automobile insurance	Casualty insurance	Engineering insurance	Fire insurance	Cargo insurance
Sales revenue	352,000	112,000	136,000	128,000	72,000
Final price	650,000	150,000	105,000	100,000	95,000
Profit	-298,000	-38,000	31,000	28,000	-23,000

In the following, the table of total capital cost allocation per activities with attention to table.1 is presented. Capital cost of each accounts group is obtained by multiplication of account balance by capital cost rate (15%), (numbers of the last row in table. 2). Moreover, the last column of table.2 indicates total allocated capital cost to each activity that is equal to multiplication of each account's capital cost by determined percentage and sum of the row's numbers. Adding calculated capital cost of each activity contained at last column of table.2 and operational costs calculated by ABC method, we can obtain final price of each activity that is sum of operational and capital costs. The final price calculated by this method is given in following table. According to total final prices of each activity in above table, one can calculate the final price of any insurance policy with considering the use of each insurance policy from activities.

5. Conclusion

Modern organizations are being founded on thoughts based on customer value such as on value based management, value chain analysis, value engineering and with the aim of wealth (value) creation. Three elements of final price, quality and function, are components that continuous activity of organizations is tied to them, so that they try to provide products and services with the lowest final, top quality and function at the least possible time to customers. Although ABC method accurately allocates overload costs but it is unable to recognize which products have higher economic value added. At first glance, including capital cost in product's final price increases it and this model will be rejected, while ABC-EVA combination model provides managers with a powerful tool for decision making and determining value creation capability of their products and services. In this method, capital consuming rate of products and services is considered in calculating final price and with correcting final price calculation structure; we can make better decisions with relation to following:

- Increasing sale price of products and services;
- Reducing capital demand;
- Reducing operational costs;
- Replacement with products with higher value creating potential;
- Elimination of products and services.

In ABC system, cargo insurance is profitable while it is vice versa ABC-EVA combination system. In addition, in engineering and fire insurances, due to allocating a share of capital cost, their profitability is reduced.

However, strength and weakness of ABC-EVA combinational model in insurance industry are as follows:

- With attention to insurance operations nature, so that all its costs could be classified as indirect production costs, developing comprehensive costing system is very necessary for this industry. Above mentioned model can meet this requirement.
- Final price can be accurately calculated benefiting activity costing and allocating capital cost to it provide enriched information for management.
- Difficulty of accurate determination of capital cost rate for each firm.
- Classification of balance sheet items to capital and non-capital can suffer from management taste and affect final price, hence it is necessary to establish some standards in this relation.

According to the Roztocky and Needy (2005) and Rahnemay Roudposhti (2008a, 2008b), result of this paper is adopted with their works and this means consistency of this issue. Also there were some lacks about data collections and modifications in their works that these lacks are not appeared in this paper.

In the end as limitations of this research we note that some sale prices data were not available and we had to replace these with proxy prices.

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